



SEQUENCE LISTING

0110 The University of British Columbia

0120 Regulation of Embryonic Transcription in Plants

0130 4810-58741

0140 PCT/CA 01/00907

0141 2000-08-04

0150 US 60/147,133

0151 1999-08-04

0160 23

0170 PatentIn version 3.0

0210 1

0211 12

0212 DNA

0213 Arabidopsis thaliana

0220

0221 misc_signal

0222 (1)..(12)

0223 CDS element at 381-369 bp

0400 1

acacattccc tc

12

0210 1

0211 12

0212 DNA

0213 Artificial sequence

0220

0221 misc_signal

0222 (1)..(12)

0223 consensus sequence

0400 2

acgactgtccc tc

12

0210 3

0211 25

0212 DNA

0213 Artificial sequence

0220
0221 primer
0222 (1)..(25)
0223 AtproFW

0400 3
ctattagatt gggtggttgg ttcc

25

0210 4
0211 27
0212 DNA
0213 Artificial sequence

0220
0221 primer
0222 (1)..(27)
0223 AtproRV

0400 4
tgctctgttt gtgtcggaaa ataatgg

27

0210 5
0211 27
0212 DNA
0213 Artificial sequence

0220
0221 primer
0222 (1)..(27)
0223 AP1

0400 5
ggatcctaata acgactcact atagggc

27

0210 6
0211 25
0212 LNA
0213 Artificial sequence

0220
0221 primer
0222 (1)..(25)
0223 Bnwalk1

0400 6
aaagagtggg gggatgggta tgagg

25

0210 7
0211 18
0212 DNA

0213 Artificial sequence

0220

0221 primer
0222 (1)..(18)
0223 AP2

0400 7
ctatagggtt cgagcggc

18

0210 5
0211 15
0212 DNA
0213 Artificial sequence

0220
0221 primer
0222 (1)..(25)
0223 Bnwalk2

0400 8
cggaagaag caaaggttga aaagg

25

0210 9
0211 14
0212 DNA
0213 Artificial sequence

0220
0221 primer
0222 (1)..(24)
0223 Lawalk1

0400 9
gatagtttgt ggtaagaaga gagg

24

0210 10
0211 14
0212 DNA
0213 Artificial sequence

0220
0221 primer
0222 (1)..(24)
0223 Lawalk2

0400 10
gtcagtgga agaaacagag gttg

24

<210> 11
<211> 25
<212> DNA

<213> Artificial sequence

<220>
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<223> EnproFW

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<213> Artificial sequence

<220>
<221> primer
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<223> EnproRV

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26

<210> 13
<211> 23
<212> DNA
<213> Artificial sequence

<220>
<221> primer
<222> (1)..(23)
<223> LaproFW

<400> 13
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23

<210> 14
<211> 23
<212> DNA
<213> Artificial sequence

<220>
<221> primer
<222> (1)..(23)
<223> LaproRV

4400 14
 tgttcagttt tgtgtcggag agg

23

4210 15
 4211 393
 4212 DNA
 4213 Artificial sequence

4210
 4211 promoter
 4212 (1)..(393)
 4213 transcriptional regulatory region

4400 15
 agtctaaga acacacatto cctcaaat ttatgcacat gtaatcatag tttagcacia 60
 ttaaaaaata atgtagtatt aaagacagaa atttgtagac ttttttttgg cgttaaagga 120
 agtctaagtt tatacgtaca ttttatttta agtggaaaaa cgaaattttc catcgaaata 180
 tatgaattta gtatatatat ttctgcaatg taotatttttg ctatttttggc aacttttcagt 240
 ggactactac tttattacaa tgtgtatgga tgcattgagtt tgagtataca catgtctaaa 300
 tgcattgcttt gcaaaaacgta aaggaccaca aaagaggatc catgcaaata catctcatag 360
 ctactccat tattttccga cacaacacaga gca 393

4210 16
 4211 934
 4212 DNA
 4213 Artificial sequence

4210
 4211 promoter
 4212 (1)..(934)
 4213 transcriptional regulatory region

4400 16
 ctatagatt gggttggttg tttccatgta ccagaaggct taccctatta gttgaaagtt 60
 gaaactttgt cccctactca attcctagtt gtgtaaatgt atgtatatgt aatgcgtata 120
 aaacntagta cttaaatgac taggagtggg tottgagacc gatgagagat gggagcagaa 180
 ctaaagatga tgacataatt aagaacgaat ttgaaaaggct cttaggtttg aatcctatto 240
 gagaatgttt ttgtcaaaga tagtggggat ttgaaaccaa agaaaaacatt taaaaaatca 300
 gtatccgggt acgttcattg aaatagaaaag tgggtctagga totgattgta attttagact 360
 taaagagttc ctttaagatto aatcctgggt gtgtacaaaa ctacaaataa tatatttttag 420
 actattttggc ctttaactaaa cttccactca tttttactg aggttagaga atagacttgc 480

gaataaacac attcccgaga aataactcatg atcccataat tagtcagagg gtatgccaat	540
agatetaag aacacacatt cccctcaaatt ttaatgcaca tgtaatcata gtttagcaca	600
attcaaaaaat aacgtagtat taaagacaga aatttgtaga cttttttttg gcgttaaagg	660
aagactaagt ttatacgtac attttatttt aagtggaaaa ccgaaatttt ccacgaaat	720
atatgaattt agtatatata tttctgcaat gtaactatttt gctatttttg caactttcag	780
tggaactacta ctttattaca atgtgtatgg atgcatgagt ttgagtatac acatgtctaa	840
atgcattgctt tgcaaaacgt aacggacac aaaagaggat ccacgcaaat acatctcata	900
gcttcctaca ttatttttcg acacaaaacg agca	934

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 <212> DNA
 <213> Artificial sequence

<220>
 <221> promoter
 <222> (1)..(1583)
 <223> transcriptional regulatory region

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acctcggttg gtactccatgc taccctccac caacgcattg tagatcaagt atctccaagg	180
ccatggatat cttttatcaa gtaagaaaag ctgactcctc ccggaacggc acgtgcgatg	240
actccctcgtg ccttgacttc ttgaggaaga ttaagaaacg ttcaggctca ggcgatgaaa	300
ctcaaggccc ccaggggctg cttcaggctc cctcccggaa gaatttttgc gcggcgcgctg	360
agagagcggg caaggttacc attggtgcgc tagaaaatct attcaagaac accaacgtta	420
acccataaga tataggtata cttgtggtga actcaagcat gtttaatcca actccatcgc	480
ctcctcgcat ggtcggttaac accttcaagc tccgaagcaa cgtaagaagc tttaaccttg	540
gtggcatggg ttgtagtgcg ggcggttatag ccattgatct agcaaaaggac ttgtttgcag	600
ccataaaaaa taagtatgct cttgtggtga gcacagagaa caccacttat aacatttacg	660
ctggcgataa taggtccatg atgggttcaa attgcttggt ccgtgttggt ggggcgccta	720
ttttctcttc caacaagcct ggagatcgta gacgggtcaa gtacgagcta gttcacacgg	780
ttcgaagcca taccggagct gaagacaagt cttttcggtg cgtgcacaaa ggagacgatg	840
agaaaggcaa aatcggagtg agtttgtcca aggacataac cgatgttgct ggtcgaacgg	900
ttaaagaaaa catagcaacg ttgggtcagt agattcttcc gttaaaggag aaactctctc	960

ttttcgttac tcttcattgggc aagaaaacttt tcaaagataa aatcaaacat tactacgtcc	1020
cggtatttcaa acttgctatt gaccattttt gtatcacatgc cggaggcaga ggcgtgattg	1080
atgtgtataga gaagaacota gccctagcac ccatcgatgt agaggcatca agatcaacgt	1140
tacatagatt tggaaaacact tcatctagct caatatggta tgagttggca tacatagaag	1200
caaaagggaag gatgaagaaa ggtaataaag tttggcagat tgctttaggg tcaggcttta	1260
agtgtaacag tgcagtttgg gtggctctaa acaatgtcaa agcttcgaca aatagtccct	1320
gggaacactg catcgacaga tacccggtoa aaattgattc tgattcaggt aagtcagaga	1380
ctcgtgtcaa aaaaggctgg tctaataaaa ccatgtttgc tctcttttgt ttctttttat	1440
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tgggtgttota gtatttgatt gtattacatg tatgtatctc ttatttacat gaaattttta	1560
aacgtctaaa aaaaaaaaaa gaattcgg	1585

4210 13
 4211 1069
 4212 DNA
 4213 Artificial sequence

4214
 4215 promoter
 4216 (1)..(1069)
 4217 transcriptional regulatory region

4400 13	
cagcttaacc ggtaaaattg gcctgtacat atatttacca ctgagttaaag acatcagtta	60
atgatttggtt gttactcaat tgggctaagt gtattattat atgtgttgta tataataaag	120
gttgaacgta aatttactaa gaatgtggtt ttccaatgtg attgctcttt ggccctcttag	180
gttttaaccc tactcgagaa gactaatttt aatttaactgg caaaaataga aatcaattca	240
taagtggtta aacaaatoga tgggtataact gattagtgat cactcttagg ttttgatcca	300
actcgagtat tgagtattga acgtcttttt taaataaaaat cttagatttt aaattgggtt	360
tttgagtaaa aaagttctta atattttctc tttgttttaa tgggtttggt ttgcatttta	420
taagcttaat tttctaat ttaattttta tctatcatcg tccgtaaaagt tttatttggc	480
acaaaactgt tttacttttc taccttataa tttgggaact ggttgagtca aagcgtacgg	540
gacaaatatg ttttatatto ttattttaaga attaacactc atctcataat tagtcagagg	600
ctagggagat tcagccaact aatgctaaca acaaaattct cttaatgato taacgatgct	660
atttaattat cggatcagta ttcttaataa agaataataa actaattcaa tagttacaga	720

taaaaaactta tatagacttt tttatttggg atataaaaagt atcaatatat tatagacaat	780
atttataacg ttaaaaatat aatatttata ttttttatat atttatttca aattgaaaag	840
cattacttct atcgaaatga atttttagtat attaattaat atttttttaa tgggaactact	900
ttctattttt ggcacctttc atctgaactac taattttatt caatgtgtat gcatgcatga	960
gcatgagtaa tacacatgtc tatataaatg catgtaaaac gtaacggacc acaaaagtgg	1020
atccatacaa atacatctca tggcaccctc tcgcacacaa aactgaaca	1080

<210> 19
 <211> 972
 <212> DNA
 <213> Arabidopsis thaliana;

<220>
 <221> promoter
 <222> (1)..(972)
 <223> FAE1 promoter

<400> 19	
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agctgaaagt tgaaacttg ttccctactc aattccatgt tgtgtaaagt tatgtatatg	120
taatgggtat aaaacgtagt acttaaatga ctaggagtgg ttcttgagac cgatgagaga	180
tgggagcaga actaaagatg atgacataat taagaacgaa ttgaaaaggg tottaggttc	240
gaatccctatt cgagaatgtt ttgtcaaaag atagtgggga ttttgaacca aagaaaacat	300
ttaaaaaate agtatccggg taogttccatg caaatagaaa gtgggtctagg atctgattgt	360
aatttttagac ttaaagagtc tottaagatt caatccctgg tgtgtacaaa actacaaata	420
atatatttta gactatttgg ccttaactaa acttccactc attatttact gaggttagag	480
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ggtatgcaca tcagatctaa gaacacacat tccctcaaat tttaatgcac atgtaatcat	600
agtttagcac aattcaaaaa caatgtagta ttaaagacag aaattcttag actttttttt	660
ggggttaaag gaagactaag ttctatacgt cattttattt taagtggaaa accgaaattt	720
ttcatcgaaa tatatgaatt tagtatatat attctctgaa tgtactattt tgcattttg	780
gaaactttca gtggactact actttattac aatgtgtatg gatgcctgag ttgaggtata	840
acatgtctca aatgcatgtt ttgcaaaaacg taacggacca caaaagagga tccatgcaaa	900
tacatctcat agcttccctc attatttttc gacacaaaac gagcaatgac gtccgttaac	960
gttaagctcc tt	972

0210 20
 0211 1790
 0212 DNA
 0213 Brassica napus;

0220
 0221 promoter
 0222 (1)..(1790)
 0223 FAE1 promoter

0400 20
 ggttgggcaa atctgacttc accaaagaaa caactcgagt cgttatccat ctcttcataa 60
 ccatcgctcc actcttttgc ttacccgttt tgggttcggt tctctacato gcaaccgggc 120
 ccaaccgggt ctacctggtt gactactcat gctacattcc accaacgcat tctagatcaa 180
 gtaattccaa ggtcatggat atctttttat aagtaagaaa agctgatccct tctcggaacg 240
 gcacatggga tgaactgctg tggcttgact tcttgaggaa gattcaagaa cgttcaggtc 300
 taggggatga aactcacggg ccggaggggc tgcctcaggt cctcccccgg aagaattttg 360
 cgggcggggg tgaagagacg gagcaagtta ctatttgctg gctagaaaaat ctattcaaga 420
 acacaaacgt taaccttaaa gatataggta taattgtggt gaactcaagc atgtttaatc 480
 caactccatc gctctccggc atggctgcta aaactttcaa gctccgaagc aagtaagaa 540
 gtttaacct tgggtggcat ggttgtagtg ccggcgctat agccattgat ctagcaaaagg 600
 attctttgca tgtccataaa aatacgtatg ctcttgctgt gagcacagag aacatcactt 660
 ataacattta cgttggtgat aataggtcca tgatggttcc aaattgcttg tcccggtctg 720
 gtgggggcgc tattttgctc tccaaacaagc ctggaxatcg tagacggtcc aagtaacgac 780
 tagttcacac ggttcgaacg cataccggag ctgacgacaa gtcttttctg tgcgtgcaac 840
 aaggagacga tgagaacggc aaaatcggag tgagtttgct caaggacata accgatgttg 900
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 gatcgctggc ggaaaagcct atcggtttac catagacgat cttcaacct tatactattc 1700
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 <211> 1210
 <212> DNA
 <213> Lunaria annua;

<220>
 <221> promoter
 <222> (1)..(1210)
 <223> FAE1 promoter

<400> 21
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 gtatataata aaggtagaac gtaaatttac taagaatgtg tttttccaat gtgattgctc 180
 ttgggcctct taggtttgaa tctactcga gaagactaat tttaatttac tggcaaaaat 240
 agnaatcaat ctataagtgt ttaacaaaat cgatgggtata actgattagt gatcactctt 300
 aggttttgat ccaactcgag tattgagtat tgaacgcttt ttttaaataa aatcttgatt 360
 tttaaattgg ttttttgagt aaaaaagttc ttaatatatt ctctttgttt taatgggttt 420
 gttttgcat ctataagctt aattttttta atttaatat ttatctatca tggtcogtaa 480
 agtttttatt ggcacaaact tgttttactt ttctaccta taatttggga actgggtgag 540
 tcaaaagcgt cgggacaaat atgttttata ttcttattta agaattaaca ctcctctcat 600
 aatagtcag aggttaggga gattcagcca atcaatgcta acaacaaaat tctcttaatg 660
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caatgaagtc tgtgaacgta aaactccttt accattacgt cataaccaac tttttcaacc	1140
tctgtttctt cccactgaag gggatctctg ccggaaaagg ctctcgtctt accacaaaag	1200
atctccacca	1210

1210: 22
 1211: 1141
 1212: DNA
 1213: Artificial sequence

1220:
 1221: promoter
 1222: (1)..(1141)
 1223: consensus sequence of A.t., L.a., and B.n. PAB1 promoters

1400: 23	
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnmsksrkw	60
warwyckyr wywnksrwwk gwykkkwybc anntsbyrha rrwkdmtay bmtmtkwyk	120
agwhryywrw rambdtvdnh yvtamnnawt tmcmmkdkk rtrwwwkknn natgwdddtk	180
yhmwnnqcb tvtwmvrykt drdwsbkrmn ygmbwwknws ydvtyywwvw ddmckrkvrr	240
wyrtngmrnn ymvawbtahr rrynngwtba mayrrwtmnn nnnnakamck rakywgwnra	300
knstcttwk sktthvrtsc wanncragda nkdhkwwkws aamgywvnnn nnnnwtykka	360
rhbarwdww hsawkkwhn aahysrkkt bykrktmvan nngtmwkm wawywkmdmd	420
wbgtynnnnn ggrrtyyqwt nkcmwtyykw kannckwraw daktcthnnt twwkmktywn	480
ncywksmtng kshrbaaavy twymwwwrry ahannnnwdy wwkaatwyky bvcskwwnny	540
awytkswn ytsryyrwkt nnsrwrsdt rsmgrannya raphygykwn trwwbwshtw	600
shbragaahy wmbmmybako hcmkawykak kyagaggsn nnnnnnnnnn nnnnatcard	660
dyyaasrwy manakwyys baannayyth annwwgwnn atdtrrtmwk nnnnnnagtw	720
nnnnnnnkn asaaknyaaa avkaakkhwr wankwamrgw hadaaabttid krnngaytky	780
nnnnnnntyr gvvtrtaard gwannnnnnn nnnnnnngws dmwvtwwaya nygtnnnnnn	840
nnnnayawwt nkwyttddr wrbaytnnn nrmayygy addyayymd tedawmkwda	900
tmmnnattyn rgtawrtnn nnnmtmktky ybhaawnnnn nngkmtaht wwvkatkt	960
kgwmmnttt crkyknnctw ytwnttttrt wyaatrwttn natgsmtrcn atgwknnyw	1020
tgwkrwtay rmatrwmkaw wkvnatgswn tnsyarwayk traykgwyyn acawrwrwgk	1080
atcymtdnaw wtacatswma thkynwhmek cnnnnnnnnnt mmramamaaa nodgarywnn	1140
n	1141

02100 23
 02110 1055
 02120 DNA
 02130 Artificial sequence

02200
 02210 promoter
 02220 (1)..(1055)
 02230 consensus sequence of A.t. and L.a. FAE1 promoters

04000 23
 actsakwaaa rmyakyagwt nntgrttkgt tgktwyycan ntgkrcyarr wgkmttayym 60
 tathwgttigw awrtwrwaam kktrkwmost amnnawttmc tarkwrtgtr wwtktnnnat 120
 qtrwwtgywm tnnngestmt warryktrrw wcytamwyga swagnastrr ttytwrwkwm 180
 okrkisarara trgrarymra wytawarrtg wtkamayaaw tmnnnnnnnak aackrattwg 240
 wraeknotet taggtttkra tccwaytoga gwatkkwktw ktsaamgmtw nnnnnnttt 300
 tkaamyaaar wmwswatttw waaawtsrkt wtyygrktam nnnnrgttcwt rmwawtwkwm 360
 mktkgtttwn nnggrtytgw ttkkmatitt akannettta wkwktctmnn ttaakattyw 420
 atcywksmtn gtsyryaaar ytwyawwtrr yayannntk ttwkactwtt ykrccttann 480
 raawytkssa netsrttrwk tncwragst asmgrayara ywtgykwnta waywcowtwyy 540
 ynagaawtam ymmtsateyc ataattagtc agaggstakg nnnnnnnnnnc caatcarwkc 600
 taasaacama nattcyctya annatytwan natgownatk taatmwtnnn nnnagtwtnn 660
 nnnnakmasa atwyaaaamt aatkyartan ttamagayar aaayttrtan ngactttttt 720
 nnttggmrtn taaargwann nnnnnnnnnn ngacwawrtt tatanegtnn nnnnnnnnay 780
 attntatatt twrtrkann nnnnnnaaay ygaaawknt tmowtokawm kawatgaatt 840
 tnaqtatath nnnnnatatt tytkyaatng kaetayttts ctattttggc ametttcaky 900
 kkaactactam tttattwcaa tgtgtatgsa tgoatgagyw tgagtantac acatgtctaw 960
 atrmatgwt ngyaaaaagt aacggaccac aaaagwggat coatrcaaat acatctcatm 1020
 gewyctctnn nnnnnntcgg acacaaanew garca 1085